

CLAIMS

What is claimed is:

1. Apparatus for positioning an occupant of a vehicle in an area of a closeable roof hatch, comprising:

a carrier frame suspended within a vehicle below the roof hatch and including a vertical support portion and a horizontal standing area connected to the vertical support portion;

a seat assembly for the occupant, said seat assembly having a backrest guided by the vertical support portion for movement in a vertical direction between upper and lower end positions and spring-biased to seek the upper end position, a seating area swingably mounted to a lower end of the backrest, and a coupling brace having one end swingably mounted to the seating area and another end swingably mounted to the standing area; and

a seat belt connected to the seat assembly.
2. The apparatus of claim 1, wherein the carrier frame is constructed for rotation about a vertical axis.
3. The apparatus of claim 1, wherein the seat assembly includes a spring member for loading the seat assembly to seek a stretched configuration.
4. The apparatus of claim 3, wherein the spring member is a gas pressure spring.

5. The apparatus of claim 3, wherein the spring member is a torsion spring.
6. The apparatus of claim 3, and further comprising a locking mechanism for securing the seat assembly in the stretched configuration.
7. The apparatus of claim 1, wherein the seat assembly includes at least one sensor and an adjustment unit rendered operative by the sensor for moving the seating area into a horizontal disposition.
8. The apparatus of claim 7, wherein the adjustment unit is formed by a gas generator.
9. The apparatus of claim 1, and further comprising damping means, associated to the carrier frame and the seat assembly, for slowing down a movement of the seat assembly in downwards direction.
10. The apparatus of claim 1, wherein the carrier frame includes a slanted leg interconnecting the vertical support portion and the standing area.
11. The apparatus of claim 1, wherein the standing area is constructed for displacement in horizontal direction.

12. The apparatus of claim 1, wherein the standing area has restraining means for securing footwear of the occupants in place.
13. The apparatus of claim 1, wherein the restraining means is a strap.
14. The apparatus of claim 1, wherein the seat assembly is so constructed as to move the occupant by about 400 mm from a seated position to an upright position.
15. The apparatus of claim 1, and further comprising a rail mounted interiorly to a body of the vehicle for engagement of the carrier frame, said rail extending about an angle of approximately 180° to allow movement of the carrier frame to the left by 90° and to the right by 90° .
16. The apparatus of claim 3, and further comprising an operating mechanism for securement of the seat assembly in the stretched configuration and spontaneously releasing the securement in the event of danger, said operating mechanism including a sensor responsive to a preset acceleration of the vehicle, and an adjustment unit rendered operative by the sensor for moving the seat assembly from the stretched configuration into a collapsed configuration.

17. The apparatus of claim 16, wherein the spring member is a gas pressure spring, said adjustment unit being a gas generator in communication with the gas pressure spring.
18. The apparatus of claim 16, wherein the adjustment unit is an electric motor selected from the group consisting of linear motor and rotary servo motor.
19. The apparatus of claim 1, wherein the vertical support portion of the carrier frame is of a material to allow limited extension or compression.
20. The apparatus of claim 1, wherein the standing area is configured in the form of a plate.
21. Apparatus for moving an occupant of a vehicle between a seated position and an upright position, comprising:
 - a carrier frame suspended interiorly from the vehicle's roof;
 - a seat assembly mounted to the carrier frame for movement between a collapsed configuration in which an occupant is seated on a seating area, and a stretched configuration in which the occupant assumes an upright disposition at a distance to a vehicle's bottom, said seat assembly being spring-biased to seek the stretched configuration; and
 - a seat belt for fastening the occupant to the seat assembly.

22. The apparatus of claim 21, and further comprising an operating mechanism for securement of the seat assembly in the stretched configuration and spontaneously releasing the securement in the event of danger, said operating mechanism including a sensor responsive to a preset acceleration of the vehicle, and an adjustment unit rendered operative by the sensor for moving the seat assembly from the stretched configuration into the collapsed configuration.
23. The apparatus of claim 21, and further comprising a rail mounted interiorly to the vehicle's roof for engagement of the carrier frame, said rail extending about an angle of approximately 180° to allow movement of the carrier frame to the left by 90° and to the right by 90° .